

REMARKS

Claims 1-20 are pending in the present application. Claims 4-6, 12, 13, 15 and 16 were previously amended.

Applicants are pleased to note that the Examiner has indicated that claims 9 and 16 would be allowable if rewritten to include all of the limitations of the claims from which they depend.

Applicants respectfully request reconsideration of the application in view of the remarks appearing below.

Objection to Claims

The Office Action presents objections to claims 2-9, 11-17, 19 and 20 as containing various informalities.

The Office Action presents an objection to all dependent claims, i.e., claims 2-9, 11-17, 19 and 20, because they begin with an indefinite article ("A" or "An") rather than the definite article, "The." The Office Action states that the mentioned claims have insufficient antecedent basis issue. Applicants respectfully disagree.

Applicants believe there are a number of reasons why this objection is improper. First, there no patent laws or rules that require the introductory portion of the preambles of dependent claims to follow the antecedent basis rule for claim limitations. Millions of patents have issued in which dependent claims starting with an indefinite article, i.e., either "A" or "An." Indeed, one of the foremost authorities on claim drafting, "Landis On Mechanics Of Patent Claim Drafting," Fourth Edition by Robert C. Faber and published by the Practising Law Institute, provides numerous examples (see, e.g., § 11 of the "Landis" reference) in which the dependent claims start with an indefinite article.

Second, there is a logical reason for not starting a dependent claim with the definite article, "The." By definition, a dependent claim adds one or more limitations to the claim from which it depends. For example, an independent claim is directed to an apparatus having the limitations A, B and C, and a dependent claim adds the limitations D and E, so that the dependent claim is directed to an apparatus having A, B, C, D and E as limitations. Clearly, the apparatus of the dependent claim is not the same as the apparatus of the independent claim. Since they are different, use of the antecedent basis rules for claim limitations is not proper. Rather, antecedent basis rules are to be used only when there is an identity as between the limitation of a dependent claim under consideration and the corresponding limitation in the claim

from which that dependent claim depends. Clearly, when a dependent claim contains more limitations than the independent claim from which it depends, there is no such identity between the subject matter of the two claims.

Regarding claims 2 and 19, the Office Action states it is not clear what the Applicants intend to mean by the phrase "each of at least some of said plurality of wires." Applicants respectfully disagree.

Applicants present the following analysis of the phrase "each of at least some of said plurality of wires" in parts, beginning with the latter elements of the phrase. First, antecedent basis for "said plurality of wires" is clearly provided in claims 1 and 18 respectively. Second, the phrase "at least some of" defines a group that may include a portion of or all of the group, in this case, the plurality of wires. Lastly, "each" identifies individual elements or wires among the group selected from the "at least some of said plurality of wires." The whole phrase "each of at least some of said plurality of wires" is simply the sum of these parts. Consequently, Applicants respectfully submit the meaning of the above phrase is clear. Therefore, Applicants have not amended claims 2 and 19.

For at least the foregoing reasons, Applicants respectfully request that the Examiner withdraw the present objections.

Rejection Under 35 U.S.C. § 102

The Office Action presents a rejection of claims 1, 10 and 18 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,811,082 to Jacobs et al. ("the Jacobs patent"), stating that the Jacobs patent discloses all of the limitations of these claims. Applicants have reviewed the Jacobs patent in detail and respectfully submit that the rejection is improper.

The Jacobs patent discloses an integrated circuit packaging structure that may be used for emulating wafer scale integration structures. In rejecting these claims, the Office Action refers Applicants to col. 8, lines 42-45. However, at this location the Jacobs patent discloses only that "most of the internal circuits from the semiconductor segments 32 are wired together by wiring layers 23 and 25 whose wires preferably run in the X-direction and Y-direction respectively." This is best illustrated in FIGS. 2 and 4. Additionally, the Jacobs patent also provides long distance connection wiring layers 17 and 19, in which the wires run in the X-direction and Y-direction, respectively. Long distance connection wiring layers 17 and 19 provide a higher

conductivity wiring path for running signals to the periphery of the interposers and for off-interposer communication. (Col. 8, lines 51-55).

In Applicants' claimed invention, each independent claim, claims 1, 10 and 18, includes a "wiring layer including a plurality of wires each having a length extending partly along a first direction and partly along a second direction different from said first direction." This limitation clearly requires each wire of the plurality have a length that extends in two differing directions. In contrast, the Jacobs patent provides a plurality of wiring layers 17, 19, 23 and 25, wherein the wires in each layer have lengths that extend in only one direction, i.e., either the X-direction or Y-direction. See, e.g., FIG. 4 of the Jacobs patent, as well as Col. 8, lines 42-45 and 50-52. Since the Jacobs patent discloses only that the wires in the various wiring layers have lengths that extend only in one direction per layer, Applicants respectfully submit the Jacobs patent fails to disclose or even suggest all of the claim limitations of claims 1, 10 and 18. Therefore, the Jacobs patent cannot anticipate these claims.

For at least the foregoing reasons, Applicants respectfully submit that the present rejection is improper and respectfully request that the Examiner withdraw the rejection.

Rejection Under 35 U.S.C. § 103

The Office Action presents a rejection of claims 2-8, 11-15, 17, 19 and 20 under 35 U.S.C. § 103(a) as being unpatentable over the Jacobs patent as applied to claims 1, 10 and 18, and further in view of U.S. Patent No. 6,404,026 to Tsuyuki ("the Tsuyuki patent"). The Applicant respectfully disagrees.

Claims 2-8 depend on independent claim 1. Claims 11-15 and 17 depend on independent claim 10. Claims 19 and 20 depend on independent claim 18. Accordingly, for at least the reasons claims 1, 10 and 18 each define patentably distinct subject matter, as discussed above, claims 2-8, 11-15, 17, 19 and 20 are patentably distinguishable over the Jacobs patent and the Tsuyuki patent, alone or in combination. Therefore, the Applicant respectfully requests the Examiner remove the rejection of claims 2-8, 11-15, 17, 19 and 20.

Additionally, claims 2-8, 11-15, 17, 19 and 20 are not obvious in view of the cited combination because there is no suggestion or motivation, other than an improper hindsight of the present claims, to make the combination of the Jacobs and Tsuyuki patents. The Jacobs patent provides packaging integrated circuit groups on substrates to emulate wafer scale integration structures. In the Jacobs patent, wiring layers 17, 19, 23 and 25 wire together most of

the internal circuits from the semiconductor segments 32. In contrast, the Tsuyuki patent discloses a semiconductor device with transistors with low breakdown voltage and transistors with high breakdown voltage that form a very miniaturized integrated circuit. The semiconductor device of the Tsuyuki patent includes fixed potential wiring layers 18a and 18b along with metal wiring layers 19a and 19b. Accordingly, Applicants respectfully submit that there is no suggestion or motivation, other than an improper hindsight of the present claims, to combine the device-level wiring of the Tsuyuki patent with the coarse system-level wiring of the Jacobs patent.

Moreover, dependent claims 4, 6, 12, 16 and 20 require that wires in wiring layer be configured in concentric rings. The Tsuyuki patent does not disclose or suggest this configuration. In rejecting these claims, the Office Action refers Applicants to col. 9, lines 50-57. However, at this location Tsuyuki discloses only that other shapes are possible, but is completely silent on a concentric ring configuration. In fact, the Tsuyuki patent provides "a fixed potential wiring region or layer 18a and a fixed potential wiring region or layer 18b are provided over the first interlayer dielectric film 16 in a manner to encircle the MOS transistor Qn and the MOS transistor Qp, respectively." (Col. 6, lines 16-21 and best illustrated in FIG. 1) Thus, given their function, it appears that wires 18a and 18b could not be located concentrically with one another.

Furthermore, dependent claims 5 and 13 require plurality of first and second contacts located alternately along a plurality of lines. In rejecting these claims, the Office Action refers Applicants to col. 9, lines 48-50. However, at this location the Tsuyuki patent discloses only that "the fixed potential wiring layer may be formed in the shape of a ring extending in a rectangular manner," but is completely silent on first and second contacts located alternately along a plurality of lines as required in Applicants' claims 5 and 13.

For at least the foregoing reasons, Applicants respectfully submit that the present rejection is improper and respectfully request that the Examiner withdraw the rejection of claims 2-8, 11-15, 17, 19 and 20.

CONCLUSION

In view of the foregoing, Applicants respectfully submit that claims 1-20, as previously amended, are in condition for allowance. Therefore, prompt issuance of a Notice of Allowance

is respectfully solicited. If any issues remain, the Examiner is encouraged to call the undersigned attorney at the number listed below.

Respectfully submitted,

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